



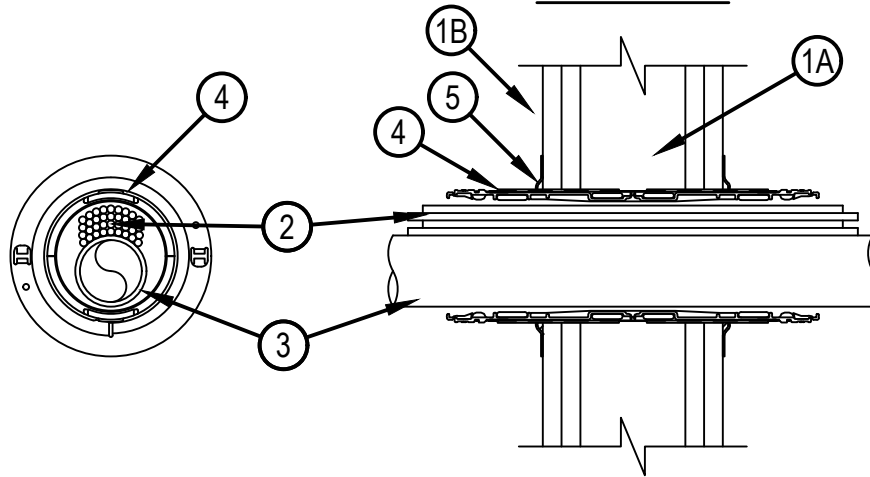
Classified by
Underwriters Laboratories, Inc.
to UL 1479 and CAN/ULC-S115

System No. W-L-8086

WL 8086

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 1 and 2 Hr (See Item 1)	F Rating — 1 and 2 Hr (See Item 1)
T Rating — 0, 1/2 and 1 (See Items 2, 3, and 4)	FT Rating — 0, 1/2 and 1 (See Items 2, 3, and 4)
	FH Rating — 1 and 2 Hr (See Item 1)
	FTH Rating — 0, 1/2 and 1 (See Items 2, 3, and 4)

SECTION A-A



1. Wall Assembly — The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described within the individual U300, U400, V400 or W400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall incorporate the following construction features:

A. Studs — Wall framing shall consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced max 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC.

B. Gypsum Board* — Nom 5/8 in. (16 mm) thick gypsum board as specified in the individual Wall and Partition Design. Opening in gypsum board to be max 2-1/2 in. (64 mm) diam for 2" device and max 4-1/2 in. (114 mm) diam for 4" device.

The F, FH Ratings of the firestop system are dependent upon the hourly rating of the wall in which it is installed.

2. Cables — Within the loading area for each firestop device, the cables may represent a 0 to 100 percent visual fill. Cables to be tightly bundled within the device and rigidly supported on both sides of wall assembly. Any combination of the following types of cables may be used:

A. Max 100 pair No. 24 AWG (or smaller) copper conductor telecommunication cable with polyvinyl chloride (PVC) jacketing and insulation.

B. Max 7/C No. 12 AWG copper conductor control cable with PVC or XLPE jacket and insulation.

C. Max 4/0 AWG Type RHH ground cable.

D. Max 4 pr No. 22 AWG Cat 6 computer cables.

E. Max RG 6/U coaxial cable with fluorinated ethylene insulation and jacketing.

F. Fiber optic cable with polyvinyl chloride (PVC) or polyethylene (PE) jacket and insulation having a max diam of 1/2 in. (13 mm).

G. Max 20/C No. 22 AWG shielded printer cable with PVC jacket.

H. Through-Penetrating Product* — Two copper conductors No. 18 AWG (or smaller) Power or Non Power Limited Fire Alarm Cable with or without a jacket under a metal armor.

AFC CABLE SYSTEMS INC

I. Max. 1/4 in. (6 mm) diameter S-Video Cable consisting of 2 max 24 AWG 75 ohm coax or twisted pair cable with PE insulation and PVC jacket.

J. Max 3/C No 12 AWG MC Cable.

K. Through Penetrating Product* — Any cables, Armored Cable+ or Metal Clad Cable+ currently Classified under the Through Penetrating Product category. See Through Penetrating Product (XHLY) category in the Fire Resistance Directory for names of manufacturers.

For openings with cables, the T, FT, FTH Ratings are 0 hr for 1 hr rated wall assemblies. For 2 hr rated wall assemblies, the T, FT, FTH Ratings are 1 hr (see Item 3 and 4 also).



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July 06, 2018

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3. Metallic Penetrants — One pipe or tube to be installed in opening. The following types and sizes of through penetrants may be used:
- A. Steel Pipe — Nom 2 in. (51 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.
 - B. Iron Pipe — Nom 2 in. (51 mm) diam (or smaller) cast or ductile iron pipe.
 - C. Copper Pipe — Nom 2 in. (51 mm) diam (or smaller) Regular (or heavier) copper pipe.
 - D. Copper Tube — Nom 2 in. (51 mm) diam (or smaller) Type L (or heavier) copper tube.
 - E. Conduit — Nom 2 in. (51 mm) diam (or smaller) steel conduit, nom 2 in. (51 mm) diam (or smaller) steel electrical metallic tubing (EMT), or nom 1 in. (25 mm) diam (or smaller) flexible steel conduit.

For openings with metallic penetrants the hourly T, FT, FTH Ratings are 1/2 hr.

4. Firestop Device* — Firestop device consists of a corrugated steel tube with an inner plastic housing, intumescent material rings, tightly twisted inner fabric smoke seal, flanges and gasketing material (not shown). Firestop device to be installed in accordance with the accompanying installation instructions. Device slid into wall such that ends project an equal distance from the approximate centerline of the wall assembly. The annular space between the device and the periphery of the opening shall be min 0 in. (point contact). Device provided with flanges that are spun clockwise onto device threads, over gasketing material butting tightly to both sides of wall. As an alternate to gasket material, sealant (Item 5) may be used. As an option, the inner fabric seal within the device may remain open. The T, FT and FTH Ratings of the firestop system are 0 hr when the inner fabric seal remains open.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 653 and CP 653 BA 2" Speed Sleeve, CP 653 and CP 653 BA 4" Speed Sleeve, CFS-SL GA L Speed Sleeves, CP 653 4" BA ILS and CFS-SL GA L ILS Speed Sleeve

The CFS-SL GA L and CFS-SL GA L ILS Speed Sleeves shall only be used in wall thickness of 8 in. (203 mm) or greater.

5. Fill, Void or Cavity Material* - Sealant — As an alternate to gasket material (see Item 3), min 1/2 in. (13 mm) thickness of fill material applied within the annulus between firestop device and wall, flush with both surfaces of wall, and an additional 1/4 in. (6 mm) bead applied around periphery of device.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE MAX Intumescent Sealant or CP 606 Sealant

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.



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